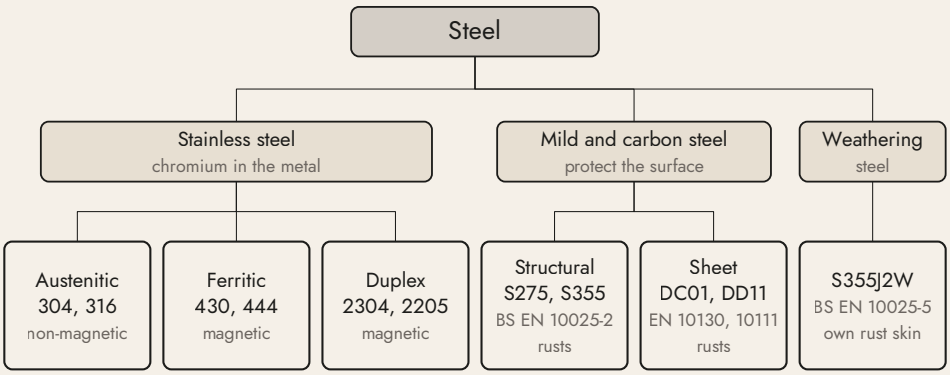
Types of *steel* for interiors and architectural metalwork

Stainless (304 or 316 for most work), mild steel (S275 or S355, always protected) and weathering steel (S355J2W). Name the grade and its EN number, never just "stainless" or "mild".

AT A GLANCE

Grade	Magnetic?	Resistance	Where it earns its place
304 / 304L 1.4301 / 1.4307, austenitic	No	PRE 18 to 21	Most interior work and low-risk exteriors. Stains in salty or polluted air; L grade for thick welds.
316 / 316L 1.4401 / 1.4404, austenitic	No	PRE 23 to 28	Wet areas, bars, kitchens, city and coastal exteriors. Salt splash needs an expert.
430 1.4016, ferritic	Yes	PRE 16 to 18	No molybdenum, so the lowest resistance here. Dry interior trim; confirm with the maker.
444 1.4521, ferritic	Yes	PRE 23 to 28	Named by the International Molybdenum Association (IMOA) beside 316 for corrosive sites. Limited formability.
2304 1.4362, lean duplex	Yes	PRE 23 to 29	Stronger than austenitic, with 316-range resistance. Patented in the 2007 tables: check supply.
2205 1.4462, duplex	Yes	PRE 31 to 38	Harsher sites (IMOA lists it when a site scores 5 or more). Higher strength.
S275JR, S355J2 mild steel, BS EN 10025-2	Yes	None: it rusts	Frames, stairs, screens. The coating, wax or blackening is the protection, so specify it.
DC01, DD11 mild steel sheet and strip	Yes	None: it rusts	Folded panels, shelves, trim. DC01 is cold-reduced, DD11 hot-rolled: name the route and surface.
S355J2W weathering, BS EN 10025-5	Yes	Rust skin outdoors	Needs wet and dry cycles; stains run-off for years. Indoors: pre-weathered, then sealed.

Austenitic grades are slightly magnetic if cold-worked. PRE (pitting resistance equivalent) ranks pitting resistance from a grade's chromium, molybdenum and nitrogen; bands are our calculation from the Euro Inox composition limits, not guaranteed values.



The steels used in interiors and architectural metalwork, grouped by how they resist corrosion. Original drawing by Make Bespoke Studio.

SPECIFICATION WORDING

STAINLESS STEEL

Stainless steel to BS EN 10088-2, grade [1.4301 (304) interior / 1.4404 (316L) wet or exposed], [2.0] mm, finish [2B] with code and grain direction [vertical] as drawing, exposed faces [Ra 0.5 micrometres] or smoother. Welded sections over about 6 mm in the L grade. Certificate [type 3.1] with each batch. Worked with tools not used on carbon steel; welds blended to the finish and passivated. Finish sample approved before production. Site corrosion risk assessed by [specifier / corrosion expert] before the grade is confirmed.

MILD STEEL, BLACKENED OR COATED

Mild steel to BS EN 10025-2, grade [S275JR], hot rolled, surface [mill scale retained for blackening / pickled for paint or powder]. Finish [blackened and sealed with wax / powder coated, RAL ref], sample [ref] approved. Welds ground [flush] before finishing. Certificate [type 3.1].

WEATHERING STEEL

Weathering steel to BS EN 10025-5, grade [S355J2W]. Interior: pre-weathered to approved sample [ref] and sealed with [clear coating agreed with the workshop]. Exterior: no clear coating; drips and drainage keep run-off off [adjoining finishes]. No colour or timescale guaranteed.

TERMS USED

Austenitic stainless steel

The most common family of stainless steel, containing chromium and nickel. It forms and welds well, and in its normal annealed state it is non-magnetic. Grades 304 and 316 belong to this family.

Duplex stainless steel

A stainless family with a mixed structure, giving higher strength than austenitic grades and good resistance to chloride attack. It is magnetic and sits between ferritic and austenitic grades for forming. Do not confuse it with a 'duplex system' of galvanising plus paint.

PRE (pitting resistance equivalent)

A number calculated from chromium, molybdenum and nitrogen content that ranks how well a stainless grade resists pitting. A higher number means better resistance, but it does not account for finish, crevices or cleaning.

L grade (low carbon stainless)

A stainless grade with lower carbon content, preferred for welded sections thicker than about 6 mm so the weld zone keeps its corrosion resistance.

Mill scale

The grey-blue iron oxide layer left on steel after hot rolling. Keeping it gives blackened steel its dark, variable look; removing it by pickling gives a plain grey surface.

Weathering steel

A steel alloyed so that a stable rust-coloured skin forms outdoors and slows further corrosion. It needs wet-and-dry cycles to settle, stains neighbouring surfaces at first, and is risky in sealed or damp-trapping detail.

STANDARDS AND SOURCES

- BS EN 10088, parts 1, 2 and 3 (stainless steels): named; the standard was not read for this sheet.
- Euro Inox, Stainless Steel: Tables of Technical Properties, 2nd edition 2007: composition, expansion, magnetism.
- International Molybdenum Association (IMOA): Which Stainless Steel Should Be Specified for Exterior Applications?: families, PRE, L grade, sulphur, roughness.
- steelconstruction.info: Steel material properties: S275 and S355 designation, BS EN 10025-2:2019.
- steelconstruction.info: Weathering steel: BS EN 10025-5 grades, patina, run-off (for bridges).
- BS EN 10025-5, 10111 and 10130 (weathering steel; steel for forming): grades and limits from producer documents.
- British Stainless Steel Association (BSSA): Technical help: advisory service and technical library.

Full guide: https://makebespoke.com/trade/technical/types-of-steel. Make Bespoke Studio coordinates manufacture through its partner workshops. Figures are guidance only and your specification governs; some may be superseded, so contact the studio to verify.